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RUTTY, J.



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A FREE AND CANDID

EXAMINATION

Of a PAMPHLET, intituled,

An Analysis of Dr. *Rutty's* Methodical
Synopsis of Mineral Waters.

Solis enim artium ignaris hoc opus competit, qui ambitiosé quidem contendunt, nequaquam tamen improbitate sua præstare possunt, ut quæ reæta aliorum sunt opera calumnientur.

HIPPOCRATES de Arte, Lib. I. c. 1.



L O N D O N :

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P R E F A C E.

ANY one, but moderately conversant with the medical Art, must be sensible of the Slowness of the Progress that has been made in the several Branches of it ; that nothing less than the united Labours of many Men, in many Ages, was requisite to make any considerable Improvements in it ; that not one Branch of it has yet been brought to Perfection ; and therefore, that every Endeavour to contribute to the Improvement of any Part of it, if conducted with moderate Prudence, ought to be encouraged.

But if Men write with other Views than the Love of Truth ; if Envy, Prejudice, and the Pangs of disappointed Ambition, darken their Understanding, they will sacrifice Truth to the Gratification of these Passions ; and those who should amicably co-operate as Brethren to the Promotion of Science, will rather perplex and confound it, and bring it into Contempt with Mankind.

This, if I mistake not, is egregiously the Case of the Author of the Analysis of Dr. Rutty's Methodical Synopsis of Mineral Waters ; in order to destroy the Credit of which, and make Way for his own Essay on Waters, he has

adopted the *Machiavellian* Maxim, *insperge fortiter, aliquid adhucerebit*. Accordingly his Pamphlet abounds with personal Abuse, and trifling Remarks, in which Mankind is no Way interested, and which therefore I shall take no Notice of, but confine myself chiefly to two Things: 1st, His Misrepresentations and unfair dealing; and 2dly, Some Observations on what he has, with great Industry, endeavoured to point out as capital Errors in Chemistry.

It may be objected, that it was hardly worth while to enter into a serious Confutation of an Author, who, by his own Self-contradictions, seems to have rendered any Answer unnecessary; however, as he has sometimes a plausible Way of uttering his Slanders, which might deceive those who had no Opportunity of hearing the other Side of the Question, and as he has, with unparalleled Presumption, contrary to the Voice of all Antiquity, decried in Effect the Existence of the nitrous and sulphureous Waters, and confounded the first with the vitriolic, notwithstanding the Opportunity given him of being better informed, by a clear Enumeration of the distinguishing Characters of each in the Work he undertakes to censure; I shall entertain Hopes of the Pardon at least, if not the Thanks, of all true Lovers of Science.

I shall endeavour to discuss the Points candidly and concisely, without interspersing a Variety of Dedications, Inscriptions, and Addresses,

dresses, in Imitation of Dr. *Lucas*, who, in his Essay on Waters, seems to have taken the Hint from the facetious Author of the *Tale of a Tub*, who, in the Introduction to that celebrated Performance, gives us to understand, that “ he had employed a World of Pains to “ split his Treatise into Forty Sections, and “ having intreated Forty Lords of his Acquaint-“ anceto do him the Honour to stand Godfa-“ thers, they all sent him an Excuse.” Our Es-
say Writer has assembled a larger Crowd of Spon-
sors of both Sexes*, and must be allowed to have
improved upon the Hint of increasing the Num-
ber, and obliging the greater Part of them to
stand without any Invitation. He has, with
great Propriety in a Work of this Kind, embel-
lished it with the Biography of his own Life,
Dissertations on Government, Lucubrations
upon the political State, and Method of com-
posing and healing the *many dreadful Shocks*
and ghastly Wounds of his native Country,
including other Digressions, like Nests of
Pill-Boxes, on the Art of Spelling, containing
Encomiums and Invectives, besides a curious

* The Number of his Patrons in the above-cited Work stand thus—One great Prince, two foreign Princesses, four Earls, one foreign Count, three Countesses, two Lords, three Ladies, four Esquires, one noble Admiral, with a Sketch of his celebrated Voyage, one Colonel, six Gentlemen of the Faculty, and one Surgeon, containing forty different Dedications, besides others, to the following collective Bodies, the Senate and Citizens of *Aken*, the President, Fellows, and Council of the Royal Society, and the Faculties of Physick of *Leyden*, *Dublin*, and *Rheims*.

Collection of satyrical common-place Reflections, against all Statesmen, Philosophers, and physical Writers that happen to differ from him in their Notions of Government, Philosophy, and Medicine, with many other Matters equally useful and necessary to his celebrated Hydrochemical Performance.



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HIPPOCRATES de Arte, Lib. I. c. 2.

IF the Reader expects to see, in the following Sheets, a Retaliation of that Virulence, Calumny, and Abuse, which the *Analyst* has thrown upon Dr. *Rutty* without the least Provocation, he will be disappointed. It is in the Power of every illiberal Dunce to pour forth such Invectives: This is a Science that requires neither Genius, Study, nor Learning; a Science which is seldom practised, but in a Dearth of Argument; and then only adopted by the most scandalous Class of Writers. Sometimes, indeed, Abuse is the Effect of an involuntary Transport of Envy or Despair, and in that Case, the Author, being truly passive, may be deemed an Object of Compassion; for he, poor Man! suffers infinitely more in his own mind, than his Malice can possibly inflict upon any other Person,

B

I shall

I shall therefore overlook the personal obloquy which the Analyst has so plentifully bestowed upon Dr. *Rutty*, and confine myself to some Remarks on those Passages in his Book, that impeach this last in his Morals and Understanding.

Analysis, p. 5, 6, 8, 29. Dr. *Rutty* is accused of doing Injustice, and breaking his Promise in making no Abstract from, nor mentioning the Name of the Author of the *Essay on Waters*; particularly, p. 8. it is roundly asserted, that Dr. *Rutty*'s Work was called back, revised, and reformed; and then insinuated that this Reformation was made by the Assistance of the *Essay*, which had been published a little before.

All this Charge amounts to no more, than the blaming a Man for not quoting or abstracting from an Author he had never seen, which is the Truth of the Case, and consequently all those Accusations, of the Want of Love of Truth, and Justice, and the dismal Declamations (p. 97.) of willfully opposing Conviction, and disdaining to be taught by a *quondam* Apothecary, vanish in Smoak; for whatever Opinion the Author of the *Synopsis* might have had of *Lucas* as a *Ciniflo* *, I believe he never deemed any Work of his of Importance enough to call back his MS. on account of it. That this was never done after it was lodged in the Bookseller's Hands is well known; and that it was never done nor thought of before, Dr. *Rutty* affirms, so that this is a mere Fiction of *Lucas*'s. One Piece of memorable Chronology will abundantly confirm the Falseness of those Insinuations, *viz.* That whereas *CHARLES LUCAS* is mentioned in the *Synopsis*; he is never named but as *C. L.* Apothecary, which is what he was a little before he wrote his *Essay on Waters*; whereas I am informed, that in an Abstract of the *Irish Waters*, which was

since

* A Blower of Abes.

since printed in *Dublin* by the same Author, he is mentioned and cited under the Title of Dr. *Lucas*. Thus then the Foundation of all personal Resentment is taken away, provided it was founded on the Supposition of an intended Slight; but there is great Reason to believe the Pique conceived against Dr. *Rutty*, derived its Origin from a more sordid Principle; a Principle of Envy and disappointed Pride. But I shall wave this Inquiry, and proceed to consider how far the Animadversions of this formidable Assailant are just, judicious, and pertinent.

The reddening of Beef or Mutton having been laid down, in the Preface to the *Synopsis*, as a Mark of the calcarious Nitre, or of the native alkaline Nitre, the Analyst (p. 15.) in Effect denies, that the Solution of either of these will cause any Alteration in the Colour of Flesh seethed therein.

This is notoriously false in the Waters called hard which, after *Lister*, the Author of the *Synopsis* has clearly shewn to be impregnated with calcarious Nitre; and most of the purging Waters, as also the Solutions of their Salts do reddens Flesh, as appears from their Histories, and the Tables in the *Synopsis*. The greater Part of the native alkaline Salts in Waters, have also the same Effect in reddening Flesh; an Effect common to the three Nitrates, *viz.* to Salt-petre, to the calcarious Nitre, and to the native alkaline Nitre, and first, for ought I know, pointed out by the Author of the *Synopsis*, of the Credit of which the Analyst is strongly inclined to deprive him.

The Author of the *Synopsis* having observed, as a Mark of Natron or the Nitre of the Antients, that being rubbed with Salt of Tartar, it excited a urinous Smell; the Analyst is *lossed in Amazement and Confusion at the superlative Blunder*: and adds these Words: “ Pure fixed Alcalies mix together without any Change of Smell. It is a Doubt

" with me, whether he ever saw a pure native
" Alcali."

Here first is to be observed a notable and premeditated Perversion of the Author's Words: For, he does not say, that the urinous Smell, excited by Salt of Tartar, is a Mark of a fixed Alcali, but it is a Mark of the Natron or Nitre of the Antients.

Now, that fixed Alcalies mix together without any Change of Smell, I readily grant him; but at the same Time, I doubt whether an absolutely pure native Alcali was ever obtained from Waters; I am sure the Author of the *Synopsis* does not pretend to have obtained it, but in the Course of his Work, mentions marine Salt as frequently combined with it, and from Facts, lays down some Appearances, that indicate a volatile Alcali, such as is yielded by Sal Ammoniac. Dr. *Leigh* found *Sal Ammoniacum* mixed with it: for he discovered that the Salt obtained from a Lake in the Nitrian Desert, and agreed to be the Natron or Latron of the Moderns, and the Nitre of the antient *Egyptians*, did yield a urinous Spirit as piercing as Spirit of *Sal Ammoniac*. on being distilled with Salt of Tartar, and with this Remark agrees the Character of the antient Nitre given by *Pliny*, viz. *Calce aspersum odorem reddit vehementem*. That the Effects of Salt of Tartar and Quick-lime are the same in this Case is well known. Such therefore was the Character of the antient Nitre, a Character hitherto probably beyond the Ken of our dignified Apothecary himself, who seems to have no Conception, or at least but very obscure Ideas of any native volatile mineral Alcali, although pointed out in the Tables of this Work, as well as by some other Authors.

The Analyst (p. 18.) says, All Authors are agreed, that the hardest and most impure Waters come from the highest Mountains.

An ample Evidence of that Gentleman's Rashness and Self-inconsistency ! For besides the Authorities already alledged, we have the following Testimony in the Works ascribed to *Galen*, “ *Colles & montes puriores aquas & tenuiores præbent* * . And the learned *Scheuchzerus*, in his *Itinera Alpina*, published in *London*, 1708, and inscribed to the Royal Society, speaks thus of the *Alpine Waters* : “ *Co-
gitavi sæpe de aquarum Helveticarum, precipue
Alpinarum levitate qua sæpe ne minimam stomacho,
alias ab aquæ potu offici solito inferunt gravitatem
copiose licet haustæ.* ” To which add *Lucas*'s own Testimony against himself, Part I. p. 30, 31, *Ess. on Waters*, “ Spring Water takes its Rise from metoric Water condensed on the high Grounds, and is more or less simple, according to its Remoteness from, or Proximity to, its Source, from the Matters it meets with in its Course,” &c. How can this, and other palpable Self-contradictions, into which his heedless Rage has hurried him, be reconciled to the specious Profession he sets out with, of having Truth and the Honour of *Hygeia* chiefly in view ? And what must he be, who can disguise evident Truths, and even contradict his own Sentiments, in order to have an Opportunity of indulging the Violence of his Disposition ? *Invidus, alterius, macrescit rebus opimis.*

In the *Analysis* (p. 18, 19, 20.) the Synoptical Tables are acknowledged to be useful ; but great Complaint is made of the Blanks left in them.

They who know the Labour of constructing such Tables will readily allow, that the Life of one Man could hardly furnish Opportunity for intirely compleating them ; in the mean Time, the Blanks

* *Lib. de Binitate Aquæ.*

throughout the Work are far from being so great and numerous as they are represented, and far less than what occur in some of the Works of that celebrated Naturalist Count *Marsili*. Something very considerable is done, and a Sketch drawn for further Improvements ; and a sufficient Number of Phænomena are related in these Tables as they now stand, to form many useful Conclusions from, as appears by the Observations which even our litigious Author hardly calls in Question.

“ He repeats his Error, (says the Analyst, “ p. 22.) that the Solutions of Silver, Lead, Alum, “ and Lime-water, shew the different Quantities “ of terrestrial Matter in each Water, in Proportion “ to the different Quantities of Sediment precipitated.”

This, upon a Review, appears to be no rash Assertion ; for it is generally found upon Experiment, that the greater the Precipitation from these Articles in any Water, the greater in Proportion is the Quantity of terrestrial Matter yielded by such Waters on Evaporation to Dryness.

In p. 23, he charges Dr. *Rutty* in these Words : “ He seems to confine the curdling of Milk to calcarious Nitre.”

A very great Injury done to the Author ; for in the Place in the Preface here referred to, it is expressly said, “ that the curdling of Milk shews calcarious Nitre, Vitriol, or Alum.” We cannot but admire the Candour and Veracity of that celebrated Author, who was exiled from his own Country for his Truth, Virtue, and Patriotism.

In Pages 25, 26, 27, 30, and 31, the Author of the *Synopsis* is highly censured for his Explications of the Precipitations in the Tables, but especially for his illustrating these Appearances by the Operation of Oil and Vitriol on Salt-petre and Sea Salt, and particularly, his Error is noticed of pronouncing

Magnesia

Magnesia Alba to be prepared from Salt-petre,
 " Whereas pure Nitre or Salt-petre knows none
 " Earth."

These Explications are only offered as probable Solutions, or Illustrations of those Appearances, and the Reader is at Liberty to admit them, or form better. Indeed the latter Part of the foregoing Paragraph seems to be the chief Instance wherein he has charged Dr. *Rutty* with any Foundation, *viz.* in saying that " One of the Methods of preparing the *Magnesia Alba* was from Salt-petre, instead of saying that it was prepared from the Mother or Lye of Salt-petre, which is indeed one of the Methods of making it." But as to that peremptory Declaration which Dr. *Lucas*, with his usual Modesty, makes, that pure Salt-petre is intirely free from Earth, the *Ipse dixit* of so rash an Author is far from being of such Weight, that it should be admitted without further Enquiry : but on the contrary, this is not a settled Point, for we not only find by Experiment that the Solution of Sugar of Lead exhibits some Grumosity with a Solution of Salt petre, but it is the Opinion of a celebrated Chemist, " That the Alcaline Basis of Nitre contains a minute Admixture of calcarious Earth * ;" in which Circumstance alone it differs from the fixed Alcali. I shall presume to adhere to this Opinion, until the chemical Infallibility of Dr. *Charles Lucas* shall be more universally acknowledged.

In commenting upon the *Synopsis*, p. 13, he saith, " Among other Insufficiencies and Absurdities, he gives the melting and blistering of the Salts, or Residuum of Waters, upon a red-hot Iron as Proofs of their containing the native purging Salt, or calcarious Nitre ; whereas, Borax and

* See the new Dispensatory intended as a Correction of *Quincy*, p. 291.

“ Alum, as well as this Salt, do also melt with
“ Bubbles or Blisters.”

True it is, the Author of the *Synopsis* does give the above-mentioned Appearance as one Mark of calcarious Nitre; but, if this be allowed a Sample of Dr. *Lucas*’s Analysis of that Work, it is a very fraudulent one. He culls out a Piece of a Paragraph, without taking any Notice of the rest, which expresses five more Proofs of the Residua, or Salts of Waters, containing calcarious Nitre, besides the melting in Blisters on the red-hot Iron; the Reader is desired to consult the Place, and if Dr. *Lucas* has any Remains of Modesty, he is called upon to make Reparation for the Injury done the Author. This is a low Attempt, to filch away a Man’s Character, and ought to be punished as petty Larceny.

He observes, in p. 31, 32, speaking of the Author of the *Synopsis*, “ His calcarious Nitre passes with him for real Nitre, for he every where gives the Epithet of nitrous to Waters that contain only the native vitriolate or bitter purging Salt, explained in the Essay on Waters, Part II, p. 100, &c. and in this he must be confessed to be intirely new, although *Lister* broached the Error.” If the Error was broached by *Lister*, how can Dr. *Rutty* be deemed *intirely new* in adopting it? This, in any other Author, would be declared an absurd Contradiction in Terms.

The Author of the *Synopsis*, in the Place here referred to, has shewn at large the Congruity, if not Identity, of the bitter purging Salt, and of that which has been known to all the learned World, by the Name of calcarious Nitre, now near an hundred Years since *Lister* published the peculiar Figure of its Crystals, with which, both in the purging Quality, and in most or all other Appearances, the native bitter Salt in our purging Waters agrees;

as

as is shewn at large in the Histories of those Waters, and in the Tables annexed in the *Synopsis*. It appears therefore, that he has the Weight of Authority and Experiments to support him in affixing the Appellation of *nitrous* to the Waters impregnated with this Salt.

But with what Propriety Dr. *Lucas* has taken upon him to reject this Term, and by a peculiar Licentiousness of Speech appropriated to it that of *The universal vitriolic or native vitriolate Salt*, the World is now to judge. I shall only observe, that how agreeable soever that Phrase may possibly be to Adepts, with respect to the Formation of this Salt by the Union of the vitriolic or sulphureous Acid to the calcarious Earth ; yet, inasmuch as the Salt, which is the Result of this Combination, is endued with Qualities very different from Vitriol ; and moreover, forasmuch as there is an entire distinct Class of Waters impregnated with a Salt possessed of every Property of Vitriol, and therefore justly reduced to that Class, and distinguished by the Denomination of Vitriolic, it is to be hoped that Dr. *Lucas*'s Authority will never prove of Weight enough, to introduce this new coined Term of *vitriolate or vitriolic Salt*, to be applied to the native bitter purging Salt in Mineral Waters, since it would create great Confusion ; and therefore, however honourable his public-spirited Endeavours may be for reforming our Language, this Novelty of his, will, in all Probability, be intirely rejected.

He might indeed, with less seeming Impropriety, have fallen into the exploded Appellation of *Aluminous*, but as that is particularly and justly rejected, and refuted by the Author of the *Synopsis*, the Analyst, in the midst of all his Wrath and Fury, seems to have had Discretion enough in this last Work of his not to take it up.

He remarks that, in *Synopsis*, p. 137, the growing

ing moist of fixed Salts in the Air is ascribed to Sea Salt.

It is true the Expressions want mending ; but at the same Time the Analyst wants Candour ; for he omits the latter Part of the Paragraph, where the cubical Crystals are mentioned, being an additional, and indeed the principal, Proof of the Combination of marine Salt with fixed Salts.

In p. 35 and 36 of the *Analysis*, a terrible Outcry is raised, and some Wit attempted to be shewn on the Author of the *Synopsis*, for attributing the Words *Tartar* and *tartareous* to Sea-Water.

This great Crime amounts to no more, than that Sea-Water, (in the Book cited by Dr. *Rutty* in the Margin) is said to deposite a Kind of Glue or tartareous Matter, and the Word *Tartar* is afterwards inadvertently used in the same Paragraph instead of Glue or Tartar-like Matter. Now the Word *Tartar*, or *tartareous*, in medical Writers, is frequently used in a lax and indeterminate Sense, and far from being confined to that Concretion which is formed on the Insides of Wine Casks ; nor would any Reader, except such a one as our Analyst, imagine Dr. *Rutty* to mean it ; which that he did not, is evident from his Summary of the Analysis of Sea-Water, p. 151, where there is not the least Mention of Tartar. So much for the boasted Candour of Dr. *Charles Lucas* !

In p. 37. of the *Analysis* we find the following Assertion. " He says, that *Harrigate* Water is " the strongest Sulphur Water in *Britain* ; yet he " is not able, by a single Experiment, to prove " this Water more sulphureous than putrid Sea- " Water, or any of the other Salt Springs, which " putrify upon Stagnation."

If he had read the Section on *Harrigate* Water with any Degree of Attention, he would have found Proofs of a far more abundant Sulphur in it, than in putrid Sea Water, or the Salt Springs, *viz.*

That

That it deposits on the Grafts a Substance of an Ash Colour, which being dried and thrown upon the Fire, stinks and emits a blue Flame, and moreover, the Fætor of the Salt Springs quickly flies off; whereas *Harrigate Water* remains strong, when three Pints have been taken from a Gallon of it in Distillation. See the *Synopsis*. But who is Dr. *Charles Lucas*, that we must trust to his Decision contrary to the Evidence of Dr. *Peter Shaw*, who declares, that the *Harrigate Sulphur-Spaw* contains actual Brimstone floating in it like Feathers, and separable by bare straining?—Will the negative Conjecture of *Charles Lucas*, *quondam* Apothecary in *Dublin*, weigh against the positive Assertion of a Gentleman of Honour, Veracity, and Reputation, who was an Eye-witness of the Fact, and found, by proper Trials, the matter so collected to be good Brimstone? Dr. *Lucas*, in all Probability, forms this Objection upon the Maxim he has laid down, that Sulphur cannot be dissolved in Water: But he may live to see this Maxim refuted by undoubted Experiments, which will prove, that Water may be impregnated with Sulphur in the Bowels of the Earth, ten or a dozen different Ways.

“ He endeavours (says the Analyst) to divest
 “ all Waters of the Character and Titule of *Acidulæ*, except the vitriolic and aluminous; where-
 “ as, in the Essay on Waters, and in the History
 “ and Analysis of the Waters of Spa, &c. the
 “ Propriety of the Term *Acidulæ* is clearly esta-
 “ blished, and those Waters are expressively called
 “ subacid chalybeate Waters, where a subtil Acid
 “ is proved to predominate.”

It is true, the Author of the *Synopsis* does incline, with divers of our more inquisitive modern Writers, to call those Waters rather *Alcallulæ* than *Acidulæ*, by reason of several obvious Appearances of a rather predominant Alcali which they exhibit, not only as falling short of the Acidity of the hard Waters, of
 the

the nitrous and of the saline, and much more of the vitriolic, all which curdle Milk, which the others do not, but rather preserve it from Coagulation; but moreover, because they not only ferment with, but actually sweeten Acids as is notorious in the Bourne Water.

These Waters, I own, do also, especially when fresh from the Fountain, coagulate a little with Soap and Alcalies, and give other Tokens of a subtle Acid; and accordingly, the Author of the *Synopsis*, in his Observations on the Chalybeate Waters in general, p. 395, as well as in many other Places of his Work, advances several Arguments to prove that they are imprégnerated with a subtil Acid. If Dr. L. had been a Man of more Prudence and less Malice, he would have consulted his own Honour far more, by remarking that another Author, though a Man of *Dutch* Genius, as he is pleased to term him, had been convinced by a Multitude of Experiments, without the least Communication with him, or Acquaintance with the Experiments in his *Essay*, that the same subtil Acid he himself had contended for, did actually impregnate the Chalybeate and other Waters, even as a strong Confirmation of the Truth of what he had, in his infinitely more elegant Manner, demonstrated in his *Essay on Waters*.

But there is one grand Objection, and which indeed is suited well enough to catch and prepossess unwary Readers, in order at once to destroy the Merit of the whole Performance, and make way for the Reception of the Analyst's own *Essay on Waters*, which is apparently the whole Scope of his Work, and which is accordingly frequently repeated and inculcated, for which Reason, I apprehend it will not be altogether useless somewhat minutely to consider it.

It is roundly alledged, in his prefatory Address to the College, " That, of the three hundred and

" odd

“ odd Waters, of which the Author of the methodical *Synopsis* boasts of having treated out of *Ireland*, he never saw one in the natural State, or at the Source ; so that all he can say upon his own Knowledge on this Subject, is confined to a few pitiful Waters in the unhappy Country in which he lives.”

How suitable this Declaration is to the Respect every Child owes to his Mother Country, or that every Philosopher owes to the Productions of Nature any where, is perhaps scarce needful to intimate, but it were doing Injustice to the Author of the methodical *Synopsis*, not to observe that this Allegation is equally false with that other of his above observed, namely, that the MS. was called back and revised upon the Publication of the *Essay on Waters* : For the Author of the *Synopsis* being a Native of *England*, has assured me, that he has sometimes visited that Country, and particularly some of the most noted medicinal Springs there, not without a View to the Inquiry into their Nature and Contents ; and particularly that of *Bristol*, where the Observations made with the Thermometer, and recorded in the *Synopsis*, in order to settle the comparative Estimate of the Warmth of that Water, are his own.

In his Preface, he candidly acquaints the Public, that the first Occasion of his Undertaking, was his Examination of the medicinal Waters of *Ireland*, a Country, though much neglected, as to its natural Productions, yet not less fertil therein than many of the neighbouring Parts of the World, and particularly, as to the Number, Variety, and medicinal Efficacy of its mineral Waters ; that this gave Occasion to his making a Comparison of other mineral Waters of the same Kind in other Countries, in order to which, he signifies what Helps he received from Abroad, by various Correspondencies settled in many Parts of *England*, and Specimens of Waters

Waters transmitted to him from thence, and from other Countries, as also from a careful Perusal of the most considerable Writers on Mineral Waters. By these Means he was induced to attempt what was much wanted in this greatly intricate, and hitherto confusedly treated, Branch of the *Materia Medica*, a *Methodus Aquarum*, by collecting and faithfully digesting, in one Volume, what appeared to be most essential in the scattered Observations of others, as well as almost innumerable Experiments of his own, which, during a long Series of Years, he had made. The Undertaking, he was ever conscious was far from being in the Power of any one Man to execute in such a Manner, but that many Imperfections must necessarily remain; and yet he apprehended, that the Publication of such a Sketch so far carried on, might prove an useful Improvement of this Branch of his Profession, and how far it is so, is now submitted to the Impartial.

Now to proceed to the Consideration of the Objection above mentioned, as to the Imperfection of Accounts given of Waters which the Author had not seen. It must be owned, that there is so far Weight in the Objection, that if it were possible to give any one Man the Life of *Nestor*, together with the Capacity of Dr. *Lucas*, for examining every Water at its Source, the Work would undoubtedly be far more compleat than it now appears; but, in the mean Time, as these are Privileges not granted to any one of the present Race of Men, the Prosecution of what is really practicable ought not to be neglected, agreeably to that Saying of *Horace*:

*Non possis oculo quantum contendere Lynceus:
Non tamen idcirco contemnas lippus inungi,
Nec quia desperes invicti membra Glyconis,
Nodosa corpus nolis prohibere podagra
Est quoddam prodire tenus, si non datur ultra.*

The

The Waters then which this Author never saw he fairly mentions, and gives their Histories from such Authors and Observers, as did examine them at their Sources, and then commonly subjoins his own Observations made at a Distance from the Sources, by which Means, the Work is rendered more compleat than if the Waters had been examined at their Fountains only. Particular Care is taken to distinguish which Waters do, and which do not, retain at a Distance their original native Qualities as at the Source.

Now it is certain, upon a summary Review of the several Classes of Waters, that great Part, perhaps indeed the greatest Part of them, do retain their original native Qualities at a Distance, so as that they may be examined, and usefully subjected to the same Experiments, with the same Events and Appearances at great Distances from their Fountains, even transported beyond the Seas. This is well known to be true of the several purging Waters near *London*, as *Epsom*, *North-ball*, &c. which formerly used to be sent to *Dublin*, and drank medicinally there, as are now the *Scarborough* and *Cheltenham* Waters, and which yield the same Appearances in most or all essential Experiments here as at their Fountains, and afford the same Contents as to Quantity and Quality.

The same Observation is no less true of all the saline, as well as nitrous Waters, all the vitriolic, many of the sulphureous, and not only most of the German Chalybeates near *Spa*, but even the *Geronstere*, if we may believe Dr. *Lucas*, bears Carriage well, as do also some of the Chalybeates of his native Country, which are therefore proposed as useful Substitutes to the German Spa Waters on divers Emergencies, of which Dr. *Lucas* is ignorant, and disdains to be informed.

Now all such Waters, which indeed make up a large Part of the Catalogue, being examined before their Minerals have suffered a Precipitation or Separation, yielding the same Contents at a Distance from, as at, their Fountain,, are to very good Purpose examined also at a Distance, and if the Comparison be made with those last named Experiments, and those that have been made at the Fountain, and are faithfully related, all that is practicable in a Work of this Nature is done.

But after all our Inquiries into Waters and their Contents, it may with great Truth be observed, that the Upshot of the Matter has been chiefly the Discovery of those fixed Parts which are left upon the Evaporation of the Water. Who, that has been but a little conversant in this Subject, does not know that the several Chalybeate Waters, foreign and domestic, the sulphureous, the vitriolic, or indeed any other, have hitherto yielded little or nothing considerable by Distillation ? What Discovery has yet, by this Means, been made of the peculiar and specific Quality of any such more volatile Parts as have come over the Helm from any of them ? It is true, Dr. *Lucas* (to give the Devil his Due, in his own Language) did, during his Residence at *Spa* and *Aix la Chapelle*, make divers useful Experiments, more clearly demonstrating the Existence of a volatile subtle Acid in those Waters than had yet been done : But after all, how far has he been able, by his utmost Efforts, to condense this Acid, and exhibit it to our Senses ? And how far has he found out the specific Difference of the Acid of one Water from that of another ? And what does all this amount to, more than the Eviction of a certain subtil Acid in general, which even the Author of the *Synopsis*, at his great Distance from the Fountain of *Spa*, and others, and abstractly from any Communication with Dr. *Lucas*, has

has discovered, although Dr. *Lucas* has more fully proved it; so that, upon the whole, the Subjects of the chief Discoveries that have been yet made by Chemists of the Contents of Mineral Waters, are confined to those solid Parts which remain equally in them, at a Distance from, as at their Source; and therefore, if Dr. *Lucas*'s Outcry on this Occasion had been a little less loud, it would have been more for his Reputation.

In p. 39 and 42, having accused the Author of the *Synopsis* of producing white Vitriol without knowing what it is, and seeming to consider it as martial; and of asserting in a Note, that Allum, as well as Iron, is the Basis of white Vitriol, he vouchsafes to inform us what the white Vitriol is, *viz.* That it consists of Zinc and Copper dissolved in the vitriolic Acid.

It is a Pity so much Knowledge were not join'd with a little more Candour and Modesty. That white Vitriol is indeed partly martial appears from the Author's Words, p. 232, of the *Synopsis*, *viz.* That the Experiment there related shews its Participation of Iron, but these Expressions imply that it consists also of some other Matter, and what that other Matter is hath been variously conjectured, and not discovered until of late. The Author himself does not assert, as the Analyst alledges, that Alum, as well as Iron, is the Basis of white Vitriol, but inserts a Note to that Purpose, merely from the Authority of *Lemery* in the *French Memoirs*. It is certain that *Boerhaave* knew but two Vitriols, the martial and venereal; and *Geoffry*, cited by the Analyst, p. 42, from the white Vitriol's blackening with Galls, concluded it to be martial. The true Origin of white Vitriol or of Zinc, has not been understood or published until of very late Years; of which Discoveries, made and ascertained

Vid. Tom. I. Elem. Chem. de semi me- talls.

since the Time of his first writing that Account of white Vitriol, the Author undoubtedly will take proper Notice with the first Opportunity. However if he does, it is to be hoped he will not borrow from any such impetuous, novendial Writer as *Lucas*, who, if he has told us all that he knows, in giving his Account of white Vitriol, p. 42, does not himself know what it is; and he omits one essential Ingredient in it, *viz.* the Iron, for that it has a *Vitriolum Martis* combined with its other Ingredients, is clear from its Appearances on the Fire, and with Galls.

In Page 234 of the *Synopsis*, Dr. *Rutty* alledges, that there is a little Sulphur in *English* Vitriol. The Proof brought to confirm this Allegation, is by the Analyst ridiculed, but misrepresented, as being drawn from the passage in *Cartheuser*, cited as a Note at the Bottom of the Page, whereas the Argument is deduced, not from what happens in the Formation of Vitriol, but from what happens to the *English* Vitriol already formed, as related in the preceding Paragraph in the Text, (as every candid Reader must have seen) *viz.* That Silver was a little blackened by the Solution of *English* Vitriol, though not by the Solution of Alum, from whence it is inferred, that some Sulphur may still adhere to it, notwithstanding the Separation of the greater Part of the Phlogiston in the making of the Vitriol; the Observation concerning which in the Margin, is only to be considered as a collateral Evidence, indicating the Presence of Sulphur in some of the Bodies from which it is made.

But let us now see, whether there be any more Weight or Truth in his Observations, on what is of greater Importance than any Speculations about the Contents of Waters. The Accounts given of the practical Uses and Virtues of some of them, particularly the Chalybeate, concerning which it is said,

said, p. 249 of the *Synopsis*, that they cool and temper the inordinate Heat of the Blood, the principal Case, says the Analyst, in which no good Practitioner ever prescribed them.

Here again he is determined not to give fair Play, by comparing Text and Context; but offers to his Readers a disjointed Part of an Account professedly written concerning the general Virtues of the Waters, abstracted both from the particular explanatory Account which follows, and from the subsequent Account of the Mischiefs or Vices of the same Waters; for in that particular Account, which follows the general, it is explained how these Waters cool, *viz.* by diluting and correcting those Humours, which, by their Acrimony, stimulate the Vessels to more frequent Oscillation, and thereby encrease Heat; and in giving Account of the Mischiefs of the same Waters, which follows that of their Virtues, he forbids their Use, where the Blood offends in Quantity, Floridness and Fluxiliness, and particularly in Fevers.

It is observable, that the Author of the *Synopsis*, in delivering the Virtues of Waters, does not presume to deduce them from Speculation, or from imaginary Accounts of the Operations of the whole, from the supposed Virtues of each Ingredient, (a Method which divers fine theoretical Gentlemen have taken, but which undoubtedly is full of Error and Uncertainty) but he has chosen to give his Accounts of the Operation and Virtues of Water's from Experience, or at least from Facts related upon the best Authorities he could procure. It is to Experience then we are to appeal, in order to determine how far Chalybeate Waters are cooling in Operation. Abstractly from this, many speculative Men have imagined, that all Waters, impregnated with Iron, must always increase the Momentum of, and consequently Heat of, the Blood;

but how unsafe such a Way of reasoning is, and that in many Cases they are prescribed as a useful Medicine, appears from the following Accounts of their Effects from Experience.

1. The *Pyrmont* Water, although the strongest of them all, is used by the Inhabitants as a common Drink without Injury; and 2dly, so far is it from Truth, that no good Practitioner ever prescribed them as a cooling Medicine, that in the Sequel of the Accounts of the Virtues of these Waters, divers eminent Authors are cited as having frequently prescribed them in these Cases, whose Credit is, by the Analyst, equally arraigned as that of the Author of the *Synopsis*. Is not *Morton* cited for having prescribed them in hectic Heats, attending Consumptions not too far advanced, as an admirable Cooler and Restorative? Is not *Musgrave* (a Physician much experienced in the Operations of the Chalybeate Waters of *England*) quoted to shew, that in a hot and biliary State of the Juices, the *German* Spa Water has excellent Effects? Are not several Instances given, in the Course of the Histories of particular Chalybeate Waters, of their allaying scorbutic Heats? And are not Doctors *Slare* and *Jurin* cited to shew their Efficacy in quenching Thirst in the Diabetes, and Dr. *Slare* in particular, who found that the *Pyrmont* Water was more effectual in that Disorder than the *Bristol*?

Now whatever Opinion Dr. *Lucas* may have entertained of these Authors, it must be confessed, that they have hitherto been ranked among good Practitioners by every one but himself; and probably will be esteemed good Authorities, long after he and his *Analysis* shall be in Oblivion.

In like Manner are his Knowledge and Candour interested, where he says, ‘ In recommending Chalybeate Waters in Vomitings and Spittings of Blood,

“ I must

“ I must be bold to say he is singular, and entirely
“ new.”

It must be owned that this Imputation, although intended as a Condemnation of the Author, yet does not absolutely amount to one; for if an Author were not at Liberty to publish any thing new of the Virtues of Waters, where would be the Room for any Improvement? The Author introduces his Recommendation of Chalybeate Waters in those Cases by these Words, (which the Analyst omits) “ Let us consider their Operation as a corroborating or astringent Medicine;” which as they undoubtedly are, if they be prescribed properly, and with the same Regard to necessary previous Evacuations as other astringent Medicines ought to be, must prove of Service in these Hæmorrhages, as in Fact, in the Course of the Histories of the Chalybeate Waters, in divers positive Examples, they have been observed to be; as likewise they have been in numerous Instances in other Hæmorrhages, as Dysenteries, and the *Menses nimii*, from a hot and sharp Blood, as well as in the scorbutic Hæmoptoe, mentioned by Dr. *Leigh*, cited in the same Page in the *Synopsis*, and moreover in the phthisical Hæmoptoe they are particularly recommended by *Moreton*, lib. 3. c. 5. of his *Phthisiologia* in these Words: “ In statu phthisico hæmoptico,
“ ubi sc. sanguinis æstus a motu intestino non ita
“ vehemens esse solet, aquæ minerales Chalybeatæ
“ magni sunt usus modo per longum tempus, par-
“ va tamen quantitate singulis diebus hauriantur.” All which may suffice to shew the singular Boldness, rather than the Learning, of our Critic, who with half an Eye can discover Errors and Defects in all his Cotemporaries.

He taxes the Author of the *Synopsis* with having recommended Chalybeate Waters in Dropsies, and

afterwards overturned his own Doctrine in saying that they are forbidden in Dropsies.

This is a very gross Perversion, and false Quotation of the Author's Words in both Places ; for, in the first, he says, *they are good in a Beginning (or recent) Dropsie* : in the last his Words are these ; *Although there are Instances of Nature's being strong enough to expel the Serosities in an Anasarca (or recent Dropsie) with the Waters, they are justly forbidden in an Ascites or Tympany, (or the last Stage :)* So that it appears, that the last Place and the first are perfectly consistent. Behold a Specimen of our Analyst's Love of Truth and Justice ! Behold the Man that has suffered for his Virtue.

His Veracity is equally conspicuous in Page 49, where he accuses Dr. Rutty of two practical Errors, namely, ordering the Chalybeate Waters to be warmed in some Cases ; and prescribing the drastic Purges after a Course of Chalybeates.

Both these are false Accusations ; any one that will peruse p. 254, 255, 256 of the *Synopsis*, will see that the Author was well aware of the Injury done to these Waters by warming them to any considerable Degree ; and that Manna, with Salts and Bitters, are chiefly recommended after a Course of Chalybeate Waters, and Epsom Salts with a small Dose only of the drastic Purges. Let the Reader determine what Epithet belongs to the Accuser.

The Author of the *Synopsis* inclining to believe, that the Sulphur in Mineral Waters is rendered intimately miscible with Water by the Mediation of the native Alcali, the Analyst endeavours to refute the Opinion from two Considerations, by him alleged as Facts, which are false. The first is, that the artificial Solutions of Sulphur in Water, by means of fixed Alkalies, are not remarkably fetid before an Acid is added. That this is false, appears from the artificial sulphureous Waters pre-

pared either with Salt of Tartar, or with Quick-lime, both which, without the Intervention of any Acid, agreed in Fetor, as well as other Appearances, with the natural sulphureous Waters.

His second allegation is, that though the Alcalies be found in most of the Waters deemed sulphureous, yet they suffer not any Degree of Precipitation by any Acid, but on the contrary grow clearer. That this is also false, appears in the first and second Table of sulphureous Waters, where it appears, that several of these Waters, particularly *Moffat*, *Swadling-bar*, *Killafer*, and *Drumgoon* do exhibit a white Cloud or Milkiness on the Mixture of Acids, and this shall be further evinced in some subsequent Remarks on the Waters of *Aken*.

In *Anal.* p. 62, he says, the Author of the *Synopsis* has not been able to shew a Water purely alcaline in the natural State, in which alone Denominations should be given to any Water.

So far indeed it is probable he may be right, that neither he nor any one else can exhibit a Water purely alcaline; but the same thing may be affirmed of every other Water; for neither is it possible to shew a purely Chalybeate, purely vitriolic, or purely saline Water, without the Mixture of some other Mineral; but this should not however hinder us from giving Denominations to Waters, from such Minerals as do respectively predominate in them in their natural State. Now had the Analyst perused the Tables in the *Synopsis* with any Degree of Attention, he would have seen that the native alcaline Salt is truly the predominant one in several Waters, not only upon exhaling them to Dryness, but even in their natural State; for it appears by those Tables, that the natural Taste of the *Selter's* Water, also of those of the Baths of *Bourbon* and *Vichy* is lixivious; and that this is also the Case of the *Aken* Waters Dr. *Lucas* dares not deny; for in

the third Part of the *Essay on Waters*, and the 57th Page, he owns the Taste of those Waters appears to be saline, somewhat bitter, and lixivial or urinous: And *ibid. p. 62.* he says of the same Waters, that they are found soft, even lixivial, especially when the volatile Parts are dissipated, and save the Expence of Soap in washing and scouring Woollen and Linen Cloths.

He charges Dr. *Rutty* with saying, *p. 440* of the *Synopsis*, “ If Spirit of Vitriol be added to *Selter's Water* to the Point of Saturation, it yields vitriolate Tartar.”

But he clips the Sentence; for the Words are not, that it yields vitriolate Tartar, but “ that it yields a Salt like the vitriolate Tartar,” which makes a considerable Difference. We shall see in the Sequel the Dexterity of our Analyst in adding to, as well as diminishing from, the Author's Words, when it may serve his malignant Purpose of representing him erroneous or ridiculous.

In Pages 70, 72, 82, 86, of the *Analysis*, the Transition from Stone to Oyl or Bitumen, without so much as forming a new Division, Chapter, or Section, is censured: The Words *Bitumen Waters* are tacitly sneered at, and the Words cold Copper, and Magew, for Mayow.

I have joined these Remarks all together, only because they conspire to shew the Malignity of the Genius of our Analyst. All these four censured Passages are really no more than so may Errors of the Press, occasioned by the Author's Absence from it, of which the Bookseller, as I am assured, was advertised, and desired to print them at the Front of the Work as soon as it should be published, which accordingly is done: and if so, and *Lucas* saw those Errata, there is no Excuse for his animadverting on them; but if he could not, or would not, see the Errata, it gives strong Suspicion

cion that he must have read this Book in Sheets, long before those nine Days to which he boasts of having been confined ; a poor Apology for his numerous and wilful Misrepresentations and Perversions of the Author.

In *Anal.* p. 81 and 95, in order to destroy one material Evidence of Sulphur in Waters, the Milkiness produced in them by the Mixture of Acids, is denied, for this specious Reason, that Alcalies cause a Precipitation with the same Waters, and particularly in the Waters of *Aken*, (some of the most sulphureous Waters in the World) which turn white with Oil of Tartar, but do not turn milky with Oil, nor Spirit of Vitriol, nor Spirit of Nitre : nor do cause any Degree of Tendency to Precipitation with Acids, but grow clearer with them.

I shall produce four Facts against one, to which I might add a fifth, which will condemn our Analyst out of his own Mouth. I say four or five Instances of some Cloudiness, and Tendency to Precipitation with Acids in those called sulphureous Waters, *viz.* Besides the two *Irish* Waters of *Swadlingbar* and *Killasher*, a Third mentioned by a *Scotch* and a Fourth by a *German* Physician, *viz.* the *Moffat* Water, and the *Fons Wirsingaviensis* in *Silesia*, as appears from the Tables in the *Synopsis* ; of the first of which it may be worth while to add the Testimony of Dr. *Plummer*, Professor of Chemistry, in the first Volume of the *Medical Essays*, *viz.* That besides the faint Blue, (which in another Experiment was a Whitishness) which the *Moffat* Water exhibited with Oil of Tartar, it turned milky with Oil and Spirit of Vitriol and Spirit of Nitre, shewing, adds he, the sulphureous Nature of the Water, but the Sulphur so subtil, that Acids cannot unite the Particles of it, so as to make them fall to the Bottom, or separate from the Water. The fifth Instance is undenialble, even by our Analyst,

lyst, being his own Testimony against himself, in p. 89, *Part III.* of his *Essay on Waters*, where he assures us, that by dropping distilled Vinegar into *Aken* Water hot or cold, a Milkiness is produced, and that after standing about twelve Hours, it appeared full of Clouds of a darker Colour, leaving the supernatant Fluid pellucid and colourless; so that our Analyst has intirely forgot himself in his new *Analysis*, for in his *Essay* here is a Milkiness and a fair Tendency to Precipitation with an Acid in *Aken* Waters, both which he now denies: And he further confirms the Truth of the Account above related from his *Essay*, by an additional corroborating Experiment in the same Place of the same *Essay*, viz. That the evaporated *Aken* Water exhibits no Milkiness with distilled Vinegar, and why? Because the Phlogiston (in his Language, but in that of the ignorant Vulgar, the Sulphur) is in this Case exhaled.

These then are Facts, and the last is his own, viz. that sulphureous Waters do cause a Precipitation, or a Tendency thereunto, both with Acids and with Alcalies, which how to reconcile, I shall recommend to a Man of his superior Penetration, although at present he pronounces these Appearances to be contradictory, and therefore, that one of them is false, having, as it seems, adopted for a Maxim not to believe any thing he cannot account for.

In p. 83. he accuses the Author of the *Synopsis* of confounding his Nitre with that of the Ancients, to which it bears no more Relation than *Epsom* Salt to the fixed Alcali.

I do not know whether to admire more the Insolence or Injustice of the Man; surely he must have imagined that no Reader of his would look into the Book he censures, or he must think with Dr. Browne, that in this Age Books in Quarto are never read:

read: For let any one consult the *Synopsis* in the Place here referred to, where this Nitre is described as of an urinous Taste, as fermenting with Acids, its Solution keeping clear with Alcalies, and feeling soapy between the Fingers, and see whether the *Epsom* Salt bears any Resemblance to the Nitre of the Ancients in these Respects.

Doctor *Rutty* says, *p. 596*, the Ochre in Part evaporates (*viz.* from *Bath Water*) being found adhering to Places exposed to the Steam of the Bath.

This *Lucas* takes to be one of the Doctor's Novelties, his own Invention.

It is no Invention of the Doctor, but *Lister's* Account, who makes the Report upon his own Observation, *p. 66. de Font. Mediat. Angliae*, in these Words: “ In Thermis nostris quicquid earum habet litui vaporoso obviam fit ochra vehementer infusit:” And *p. 67.* “ Ochra ipsa vaporat.” Who could have imagined that *Lucas*, who pretends to write so dogmatically on the Mineral Waters of *England*, was so ignorant of what *Lister* had written on the same Subject?

The Analyst asserts that *Bristol Water* contains, among other Things, a vitriolate Salt.

The Author of the *Synopsis* calls it calcarious Nitre, both from the Figure of its Crystals and other Appearances; but according to the Analyst, it is vitriolate Salt without Vitriol; for it wants the metallic Base.

He observes that Dr. *Rutty* says, “ *Aix la Chapelle* Water grows milky with the Solutions of Silver and Lead; but the *Essay on Waters* shews his Mistake; for both these Solutions give highly discoloured Precipitations with the Thermal Water in its natural State.”

Whatever Contradiction may appear in this Place, is owing merely to a Difference in one Circumstance,

circumstance, *i. e.* the Time in which the Experiment was made: Both Experiments are undoubtedly true, and easily reconciled. Dr. *Rutty*'s Authors did not make theirs on the Water immediately from the Source, whereas Dr. *Lucas* made his on the Water immediately from the Fountain, even within twenty Seconds after it had been taken up, which Difference Dr. *Lucas* knows very well was the sole Cause of the Diversity of the Appearances in those Solutions, and that his Phlogiston exhales in the first Case, but is catched in the second; and therefore there lies no just Impeachment of Want of Truth against Dr. *Rutty*'s Relation of the Experiments.

In *p. 97*, the Author of the *Synopsis* is accused of an Error, in saying that the distilled Water of *Aix la Chapelle* is sweet.

So his Authors say, and there is no doubt but they found it so, and even the Analyst himself, *p. 74*. *Part III.* of his *Essay on Waters*, expressly says, that the first Runnings had little or no perceptible Taste, although in a subsequent Trial, with much ado, it amounted only to a subacid and subastringent Taste.

Speaking of the Salts of *Aix la Chapelle* Water, he accuses the Author of the *Synopsis* of not determining the Nature of its neutral Salt.

Had not the Analyst a very strong Propensity to quarrel, he might have spared this Remark; for in the Place of the *Synopsis* here referred to, the several Properties of marine Salt are enumerated, and that Salt is expressly named as combined with the native Alcali in these Waters, which are the two individual and only Salts with which Dr. *Lucas* also says they are impregnated.

“ He glibly swallows Contradictions, (says he, “ *p. 98.*.) telling us from some of his Authors, that “ the hot Water of some of the Springs, compared “ to

“ to that of a neighbouring *cold* Spring, is two
“ Grains in an Ounce heavier.”

This is a base and scandalous Interpolation, in adding the Words *hot* and *cold*, which are not in the Original, but the Words are, “ The Water of some of the Springs, compared to that of a neighbouring Spring, is heavier than this last by two Grains in an Ounce ;” which being the Estimate of the learned *Scheuchzerus*, a Person accurate in his Calculations, and conversant in comparing the specific Gravities of Waters, is far from carrying any Contradiction, as it is not to be doubted but that he knew, as well as Dr. *Lucas*, that it is necessary, in comparing the specific Gravities of the two different Waters, that they should be of the same Degree of Heat, otherwise the Experiment must be fallacious. Wherefore, that nothing might be wanting to make it so, the Words *hot* and *cold* (not in the Original) are added, and then he proceeds to tell us in an Example, what every one, in the least conversant in these Waters, knows, what a mighty Difference there is between the Gravity of the same Water hot and cold, which is not at all applicable to the Original, but only to his own Corruption of it.

I shall now make a few Observations relating to the Waters of *Aix la Chapelle*, and the rather, as it is modestly hinted here, that the *Essay on Waters* is the only Writing that gives a rational and clear Idea of the natural, civil, and medical History of these Baths, the solid Contents of which are almost three Times as much as the Author of the *Synopsis* makes them, in which, if I mistake not, he has greatly enlarged the Quantity he assigned these Waters in his *Essay*, Part III. p. 103, viz. that there are 35 Grains of solid Contents in a Pint of the Water at a Medium, i. e. 280 Grains in a Gallon; whereas, the Author of the *Synopsis* makes them

them 240 Grains: How then does his Quantity appear to be three times as much? Where is the mighty Difference? Those who have been conversant in examining Waters, often find as great, or a greater, Difference in the same Water at different Seasons, so that, as to the Quantity of Contents, there is as little real Ground for Contest between these two Authors, as I have before shewn there is as to the Quality of these Contents, the saline Parts of which both agree to consist of an alcaline combined with a muriatic Salt; only as to the rest, the Author of the *Synopsis* calls it indefinitely a terrestrial Matter, which, according to Dr. *Lucas*, is partly selenite, an Improvement of how great Importance I leave to proper Judges.

And lastly, as to the Sulphur, of which Dr. *Lucas* thinks fit to deprive them, I shall here give a collective View of the Evidence of a real Sulphur substantially dissolved in these Waters, from his own Experiments and Observations of them, *viz.*

1st, He observes the Smell of these Waters to be like that of a Solution of Sulphur in an alcaline Lye, *i. e.* they smell like what they really are, according to others.

2dly, These Waters, taken directly from their Source, agree in their Effects with a Solution of Sulphur in an alcaline Lye, in exhibiting highly discoloured Precipitations with the Solutions of Silver and Lead.

3dly, The Effects of the Water on the Drinkers, according to the Account given, *Part III. p. 148,* of the *Essay on Waters*, are like those of real Sulphur, *viz.* Silver borne in the Pockets during a Course of this Water, is tarnished first yellow, and then black, whilst the whole Body of the Patient contracts a sulphureous Smell.

Lastly, that these Waters and those of *Borset* do both yield Sulphur Dr. *Lucas* allows, and although

nil dat quod non habet be a Maxim among the Vulgar, our Adept explains this in a different Manner, by the Union of Phlogiston and exhaling Acid in Vapours in the Air; by which Explication the Joke of a spiritualized Sulphur reverberates upon himself; although, to do him Justice, he allows it by and by to assume a corporeal Form, *viz.* both in the Flowers collected in the Vaults of the Sources, and in the Magistry of Sulphur precipitated from some of the lower Springs of *Borset*, which last is no more than what is also separated from divers even of the cold Springs denominated sulphureous, and how justly is now submitted to impartial Judges.

But before I dismiss the Subject, it will not be amiss to take Notice of another flagrant Piece of Injustice done to the Author of the *Synopsis* by *Lucas*, who charges him with having adopted the Opinion of a volatile Vitriol; and arrogates to himself the Discovery of that Error. Whereas, in Fact, Dr. *Rutty*, in Page 244 of the *Synopsis*, and in several other Places, argues against the Existence of any such volatile Vitriol, and mentions it only as the Conjecture of other Authors. Our Analyst likewise, with the same Candour and Modesty, pretends to be the sole Demonstrator of an Acid in the *German Spa*, and other Waters, a Principle which the Author of the *Synopsis* had discovered, and proved by Experiments, without having any Communication with *Lucas* or his Works.

This egregious Analyst, in the midst of all his Rancour, Misrepresentation and Effrontery, has, as it were in his own Despite, acknowledged in his Preface, that by the Care of Dr. *Rutty*, the Opinions and Experiments of the several Writers on Mineral Waters are united in one Volume. Surely then the Publick is obliged to him for having collected the Substance of many hundred Books into

so small a Compafs. *Lucas* has likewise been obliged to allow, that although the Author of the *Synopsis* did not examine all the Waters on the Spot, yet the Originals, from whom he compiled his Work, did generally enjoy that Advantage. Another Testimony may be brought in his Favour, *ex cœstris inimicorum*, by quoting his Antagonist for his Fidelity in making Abstracts: In Page 47 of his *Analysis* we find these Words: “ Wherever he “ goes in Leading-strings, held by others, he may “ generally be relied on, where he happens not to “ mistake an Author, or cite an unworthy one.” Perhaps it would have been more for the Credit and Advantage of Dr. *Charles Lucas*, that he had cited some Authors of Reputation, to confirm some Doctrines he has taught concerning Mineral Waters; Doctrines founded on his own Experiments only: And how far these Experiments have been truly and faithfully related, the World will be left to judge, from that Want of Candour and Veracity, which I have detected in almost every Article of his Charge against the Author of the *Synopsis*; as well as from the known Disposition of the Man, who is at Variance with all the World, and in a fair Way of being avoided as a common Incendiary.

And now having finished my Remarks on the Objections that have been made against the Author of the *Synopsis*, in Reference to the chief and principal Errors our Analyst professes to point out, I apprehend it may justly give the first named Author and his Readers some Satisfaction, that the Genera of Waters and their several proper Characteristicks he has laid down, have stood the Attacks of so malevolent an Adversary, so far that, excepting a Passage or two, which are answered in these Remarks, he has not made any important Objections against the essential Parts of the Observations on the Tables.

As the Reader, however, may think I have treated this Assailant too seriously, I shall contribute to his Relaxation, by entertaining him with the following Letter, which is a very just, shrewd, and humourous Expostulation, though written without the Knowledge of the Gentleman in whose Person it is addressed to Dr. *Charles L——s.*

THE
ANALYSER Analyfed.

*Dehinc ut quiescant porro moneo, et desinant
Maledicere, malefacta ne noceant sua.*

TER.

Friend Charles,

I Adventure to call thee by this most endearing Appellation, because if thou hast the least Spark of Gratitude in thy Nature, thou wilt be an affectionate Friend to me, who am now about to do thee the most friendly Office, that one Man can do to another. I will, in the following Pages, endeavour to cⁿvince thee of some of thine Errors, which do thee much Harm, and to point out to thee a Method by which thou mayest reform them, to thine own great Advantage. I will do this good Work in all the Simplicity of Truth, of which thou hast professed thyself, *in Words*, to be a great Lover.

Some Weeks ago, my Bookseller brought me a Book, tituled, *An Analysis of Dr. Rutty's Methodical Synopsis of Mineral Waters*. Here, said he, your old Friend *Charles* has mauled you most damnably.—Who, said I, *Charles*, our late Ap-

thecary?—Aye, said he, the same Man whom our late Legislature were obliged to expell out of our Kingdom, for his turbulent, and seditious Practises among the Mob.—Softly, said I, Mr. *W——n*, no railing; perhaps the poor Man's Brain may have been affected by the Misfortunes he has drawn upon himself by his Misconduct, and then he is rather the Object of our Pity than of our Anger:—I will look over his Performance. Not without an Expectation, having then never read thine other Performances, of finding some new Light thrown upon the Subject of which we were mutually endeavouring to explane the Properties, for the Use of Mankind. I wished to see thy Knowledge of Mineral Waters delivered in a sober, decent, modest Manner, which is as essential to the Writings of a natural, as of a moral Philosopher, if his real Intention be the Discovery of Truth, and not vane Glory, which Philosophy abhors. But how was I surprised when I found, that at least nineteen Parts out of twenty of thy whole Book, were employed only in the most foul, unmannerly, rancorous, unchristian, personal Abuse of me, who am not conscious of ever having given thee the least Offence, in any other particular, but that of not having quoted any of thy Writings in my Book, which thou knowest was ready for the Press before thine Essays were published. Consider, *Charles*, whether this seeming Neglect, of what thou hast favoured the World with, since I had finished my Work, ought to have stirred up so much Envy and Malice against me, as thou, in thine Anger, hast, in every Page of thy Performance, belched forth against me, in more opprobrious Railings than one should have believed, Misrepresentation could have invented, or the most enraged Fisherwoman could have practised. Believest thou that this Manner of treating any Gentleman, from whom thou

thou mayest differ in Opinion, or to whom thou mayest be superior in Knowledge, can give thee the Esteem, the Love, or the good Will of the learned, the humane, or the well mannered? If thou doest, thou mayest likewise believe that Spiders, Toads; and Serpents, must be the Favourites of Mankind, and that they will take them into their Bosoms, because they have seen them spit their Poison on every one they touch. Thou beest indeed a Man of lively Parts, and wantest not Knowledge in thine own Profession. Thou hast a Genius, which much resembles an unruly, fiery Steed, who runs away with his Rider, tramples down all who stand in his Way, and foully bespatters those who are placed but near the Road; at last he breaks his Rider's Neck.—I am truly sorry for thee.—If thou couldest restrane thine impetuous Passions within the Bounds of Moderation, Decency, good Manners, Truth and Charity, thou mightest become an useful Member of the Common-wealth, and a sober Promoter of natural Knowledge. But alas! all thy Talents are rendered useless, if not noxious, by thine insatiable Thirst after the Destruction of every other Man's good Name, and Character. Thou persecutest the Living and the Dead, the most celebrated Practitioners of the present Age, and the most approved Authors of former Times, with the same implacable Spirit of Envy, Malice, and all Uncharitableness. *Hoffman, Becher, Boerhave, Frewin, Hales, Shaw,* fall undistinguished under thy venomous degrading Pen! Could I then expect to escape it? My own Littleness might indeed have protected me. But I find how low thou cannest stoop, and I think myself much honoured by thee for letting me have a Place in the long Catalogue of those great Men, whom thou hast attempted to defame. Thanks to my kind Friend, for thus embalming my Memory. It flatters one's

Pride a little to be chronicled, even by a plain Stone, amongst the superb Monuments of Kings and Princes.

Having waded more than Knee deep in the Filth of thy personal Abuse of me, and being astonished at my old *Preceptor's* being so outrageously angry with me, we having parted some Years ago in great good Humour, and having never had any Inter-course since, I procured thy famous Essays, so often quoted, and with the highest Encomiums extolled, in this analytical Treatise, by thyself, who understandest them better than any Body else. Upon perusing this wonderful Work, I had at least the Pleasure to find that I had met with no more than Neighbour's Fare ; that thy Abuse of me did not proceed from any old Grudge, or personal Hatred, or from any real Errors in my Writings, but merely from thine having been vanely puffed up in thine own Conceit, by persuading thyself to believe, that the Dominion over mineral Waters is thine, and that whoever dares to speak, or write about them, is a base Intruder into thy Province, an Invader of thy Royalty, and that therefore thou hast an indefeasible Right to call him before thy supreme Tribunal ; to lash him by thy Satire ; to defame him by thine Invention, and to expell him thy Territories, with all the Reproach, and Ignominy, which opprobrious Names can cast upon him, yelping after him, and hanging upon his Ears, and Tail, like a Village Cur on a Mastiffe, till he is pissed upon.

Now, Friend *Charles*, let me hold up a Glafs to thee, that thou mayest behold some of thine own Features, and tell me frankly how thou likest them. I have not the Poignancy of thy Wit, or thy Talents for Ridicule. Yet I will venture to imitate thy Manner of treating the most trivial Slip of another Man's Pen.

Thou

Thou doest assert, in the 20th Page of thine *Analysis*, that—It is said to be a sage Peice of Advice of the Poet—‘ *Keep thy Peice seven Years*’—Upon reading this blundering Quotation how wouldest thou triumph ! Here, wouldest thou cry out is an egregious Sample of our Doctor’s deep Learning ! He is perfectly acquainted with the Classicks. *Horace* saies—*nonum prematur in annum*—Does the learned Doctor think that *nonum* means *seven* ? Had he none Dictionary by him ? Would not every Apprentice, in any ‘Pothecary’s Shop in Dublin, have taught him how to tell Ten in *Latin* ? If he is so ignorant in the *Latin* Numerals, what deadly Mistakes must he have been guilty of by the Misconstruction of the Physician’s Bills, while he did exercise the Function of an Apothecary ? If he did put *Septem* for *novem* and *novem* for *Septem*, in his Compositions of the most powerful Medicines, how fatal must such Blunders have proved to many of his Patients. Horrible, most horrible, I shudder at the Thoughts of such profound Ignorance ! But the Translation is quite new—Our Doctor is always new—at least in his Blunders—in short, it is a true Lucaism.

Tell me now, my modest Friend, what thou wouldest think of such a Paragraph in another Man’s Writings, and then review thy own; the greatest Part of which is made up of such low Raillery, seriously intended to defame thine Antagonist. Canst thou blush ? If thou hast ever done it, I dare say thou willest now feel that Confusion of Face.

After having given this Specimen of thine Learning, give me leave to add one Instance among many of thine Honesty, and Candour, in rendering to *Cæsar* the Things that are *Cæsar*’s, as thou expressest it in order to shew that thou art as lucky in thine Application of the sacred Text, as thou hast been in thine Translation of the heathen

Poet. Thou meanest, I presume, by that Paragraph, to accuse me of having put off the Discoveries of other Authors for mine own; a Crime which thou abhorrest, and therefore doest challenge the World to prove that thou hast ever been guilty of it. Let us try thee by thine own Works.

Having received so high a Character of thine Essays from thine self, I could not forbear turning them over. I first dipped into that Part wherein thou treatest of the Waters of *Bath*, because that was the most interesting to the Inhabitants of the Kingdoms to which we belong, and from which I chose to take my Samples, as they in no Ways relate to myself, or my Writings. How was I surprised, to find so much Envy, Malice, Scandal, Ill-manners, Forgeries, and Defamation crowded into so small a Tract! How doest thou foam, mouth, and rant, if the poor Word *Regular* comes in thy Way! To have an Education in one of the *English* Universities, is to thee a sufficient Proof of a Man's being a Blockhead, an Ignoramus, a Scoundrel, an Impostor, and every Thing that is bad—Surely, *Charles*, some *Regular* must have run mad, and bit thee.—Let us then pity thy miserable State, and not be angry at the Effects of thine Disease. I am told that the Gentlemen of the Faculty at *Bath* consider thee in this Light, and will no more regard thy Railings, than they would those of a confined Inhabitant of St. *Patrick's* Hospital. But to quit thy Ribaldry, and Invective, which is almost to quit thy Book, I will give one Instance, amongst a Thousand, of thy Fairness, and Justice, in rendering unto *Cæsar* the Things that are *Cæsar's*, as thou vainly boasted to have done.

In Page 172, thou saiest, ‘In taking my Survey of these Waters, this was one of the first remarkable Matters that presented itself to my View. I could

could not be a Stranger to a Body, I had so often seen upon the Surface, as well as at the Bottom of shallow stagnant Waters, that I do not remember a Ditch or Pond of such Water, of two Years standing, free from this Production, in the same Seasons, in which it is found at *Bath*. My first Surprise was how it came there; but my greatest Astonishment was, to find it passed with all the *Authors*, and all the Inhabitants of the City, and all the physical Fraternity, from the highest to the lowest, that I saw, or heard of, except one Apothecary, for either actual Sulphur, or a sulphureous, or bituminous, or bituminoso-sulphureous Substance.'

In several of the following Paragraphs thou vauntest this great Discovery of thine of this aquatic Plant, which thou declarest to be unknown to any Author. I will here confront thee by a Quotation of *Guidot's* own Words, whose Works thou mustest have read, or thou couldest not have stolen so many Things from them, or abused him so scurilously.

Page 33. Dr. *Thermis Britannicus*, he says, 'Præter luteum hunc colorem, de quo alibi plura sunt dicenda, color etiā viridior in lapidibus quibusdam in Balneo appareat, qui a Salibus forsan proficiscitur; salita enim edulia, si lapidibus esculentia liceat componere, viridà existunt; et si Vitriolum admittamus, coloris istius ratio erit intellectu facillima. Quin et *Muscus quidam lapidibus undiquaque in balneo adherere solet*, qui Thermarum aquam spectantium oculis viridiorem reddit, et scopis, et carpatriis purgatus a fundo in superficiem ascendens, ibidem etiam non raro fluitat. E genere Vegetabilium, et materia videtur naturæ penu deprompta, unde *Muscus* primò incrementum sumit. Peracta hæc Observatio ultimo die Julii. A. D. 1688.'

Can Words more plainly demonstrate that this Moss, about the Discovery of which thou hast made such a Pother, was known to *Guidot*, and described by him, as sometimes sticking to the Stones at the Bottom of the Bath, and sometimes floating on the Surface of the Water? Yet hast thou the modest Assurance to deny that it was ever known to any Author, or to any of the present Fraternity of *Physic*, except to thee, and one other Apothecary—*so great is their Ignorance in Botany!*—So much for thy Honesty and Fairness.

Let us now try thy Depth in natural Philosophy, especially in that Part of it in which thou hast made thy most curious Researches—the Origin of Springs.

The *Bath* Waters are well known to be a perennial perpetual Fountain, always clear, and pellucid, never encreased by the greatest Rains, or diminished by the longest Drowths, and never changed in their Heats, or Contents, by the Variety of Seasons. Yet thou saiest in Page 176 of thine *Essay*, ‘that it is natural to conjecture that the hot Springs at *Bath* are partly supplied from some of the shallow Ponds, and slow running Springs, and Rivulets in the Neighbourhood; from the copice Hedges, about which, the Leaves, and Nuts of Trees may be, by the same subterranean Conveyance carried.’—In this Paragraph hast thou given a great Instance of thy Accuracy in the *English* Language, on which thou doest so often plume thyself. But let us see whether thine Hypothesis be more accurate than thine Stile.

If, as thou doest *naturally* conjecture, the *Bath* Fountains did really communicate with the neighbouring Ponds, and Rivulets, would they not often loose their Pellucidity, and become dirty, and turbid, as often as those their Feeders became so? Would not they be encreased in their Quantity, that

that is fill the Baths sooner, after great Rains? Would not their Quantities be decreased when those Sources were dried up, by long Drowths, fill the *Baths* slower, and have their Qualities altered by either of those Changes of Weather. But no such Alterations, as far as I can hear, have ever been discovered in these Waters, by the nicest Observers, and therefore thine Hypothesis is absurd, and overturned by Experience. But what led thee into so foolish a Supposition, I perceive from thine own Words, was, that Nuts are found in the Cistern of the King's *Bath*, and thou couldest no otherwise explane how they could come there. But I will let thee into the Secret; a Patient of mine, now at the *Bath*, who is no incurious Observer, writes to me in the following Manner.—I
 ‘ have been so fortunate, says he, as to be present
 ‘ at the Opening of the Cistern of the King's *Bath*,
 ‘ and to see Nuts, Peach Stones, broken Tobacco
 ‘ Pipes, Fragments of Apothecary's Phials, and
 ‘ many other Things taken out of it.’ Thou wilt hardly suppose that all these Things were the Product of thine Coppice Hedges. How sayest thou, did these Things get into the Cistern? I will inform thee from the same Letter. ‘ As soon, says my Correspondent, as the *Bath* is emptied, a Man scours the whole Surface of the Bottom of the *Bath* with a coarse Beesoin, and by sweeping the several Things which have been thrown into the *Bath* over the Rail, or from the adjacent Houses (a Nusance thou doest most justly complane of) over the Top of the Cistern, which is full of large Holes, some of the several Things which are thus swept over its Surface, do slip into it, and are found in the Cavities round the Mouth of the Spring, when the Cistern is removed, which is done once in a Year or two, to the great Wonder of the Spectators.’ It is strange that

thou

thou who dideſt with ſuch Penetration *ſmell* * out the Cheat of the Gold-makers, which I am assured was well known to every Barber's Boy in the Town, ſhouldeſt not likewiſe have diſcovered this palpable Miſtake, if not Fraud, about the Contents of this Ciſtern, which would have ſaved thee from giving ſo unphilofophical an Account of the Manner of their being conveÿed thither. But though thou mayeſt not be a deep natural Philofopher, yet mayeſt thou be a ſubtile Logician. Syllogiſm is perhaps thy Maſterpiece. Take the following Specimen of thy Skill in that Art, in thine own Words, Page 249, of thine Effay, on *B. W.*

‘ Upon Enquiry, and examining their voluminous Collection of Recipes, and the no less copious Bills of Apothecaries, a long Catalogue of Medicines has been given every Day, for ſome Months, with a few Ounces of the Water once a Day, perhaps, not above once, or twice a Week, during a tedious, naufeous, and expensive Course.’

—After this ſtrange Account, which has all the glaring Marks of a direct Falſhood in it—thou criest out in an Agony—‘ Yea, I have ſeen ſome of the Prescriptions of one of the moſt famed Practitioners of his Time, direcťing a Medicine to be washed down, twice a Week, with four Ounces of *Bath Water*, where as many Pounds might have been ſafely taken. But the Preſcriber himſelf in that, as well as others of his Prescriptions, ſhewed he knew, or thought nothing of the Matter, or layed no more Stress upon the Water, than merely to keep the Patient where he reſided: For he made *Bath Water*, and green Tea ſynonimous; bidding the Patient drink four Ounces of the one, or the other. Who could refrain Laughter, if the Subject were not too ſerious?

* *Vid. p. 282, Effay on B. W.*

Indeed, *Charles*, hadest thou known how many sick People, from every Part of the Nation, resort to *Bath*, merely to put themselves under the Care of this famous Practitioner, without any View of drinking the Waters there; hadest thou considered that it was impossible for thee to know the Circumstances of his Patients, and consequently to judge of the Propriety of his Prescriptions, one should have presumed that it would have been impossible, even for thee, to have thrown out so scurrilous a Reflection on a Man who has for fifty Years adorned his Profession, with an unblemished Character of Honour and Honesty.—But to thy Logic.

Thy Syllogism runs thus :

Whoever orders this or that Thing to be taken indifferently, believes that this and that is the same Thing, or of equal Value.

The Doctor ordered a Medicine to be washed down with four Ounces of green Tea, or Bath Water.

Ergo, the Doctor believed that green Tea, and Bath Water were the same Thing, or equal in Value.

Try this Syllogism by another similar one. Whoever directs you to drink your Wine out of this or that Vessel, thinks it indifferent whether you drink it out of this or that Vessel. But the Doctor orders his Patient to drink his Wine out of a Glass, or a Tin Pot.

Ergo, the Doctor believes that a Glass, and a Tin Pot are the same Thing.

Risum teneatis, Amici!

Aristotle himself never hit upon such a Syllogism. But thou art ever making new Discoveries, which prove the Ignorance of all who have gone before thee.

How many Doctors Bills hast thou formerly dispensed, in which the Patient was ordered to take his

his Bolus, Pills, or Drops *ex quolibet vehiculo?* N. B. *Vehiculum* here does not signify a Wheelbarrow, as a Man who cannot tell in *Latin* might learnedly suppose, and bring the Authority of the grave *Littleton* as his Voucher.—The Doctor means that his whole Dependance is on the Medicine, and that it is of no Consequence with what it may be washed down. From whence thou mayest logically prove that the Doctor believed that White-Wine Whey, or a Cordial Julep were the same Thing, or as thou learnedly spelkest, *synonymous*.

I believe I have now tired thee, the Reader, and myself with Samples of thy Learning, Modesty, Good-Manners, and Good-nature, and therefore I will have done with them, though they crowd upon me so thick in every Page that I scarce know which to chuse.

I solemnly protest that all the personal Abuse, and ungentleman-like Scurrility, which thou hast vented against me, have not made me thine Enemy. I thought it but Justice to the World and Kindness to thee, to let thee see that thou hast thine Foibles, as well as other Men, and that therefore it would be right for thee, and thine bounded Duty, to refrain both thy Tongue, and thy Pen, from that vile Licentiousness, in which thou hast indulged both, beyond any Writer of this, or any former Age. I do not, by any Thing I have said in these Papers, intend to suggest that thou art not a Man of Sense, and Parts. I candidly own that I have formerly profited by thy Assurances, in the Investigation of the Nature of Mineral Waters. I think thou hast made many useful Experiments, and shewn much Knowledge on that Subject. But thou hast buried them under such Loads of Scandal, personal Abuse, and unmannerly Invective, that few People can bear to search for the Jewel in so large and filthy a Muxon. If therefore thou

hast

havest any real Desire of profiting the World by thy Labors, I advise thee, as a Friend, to make an Abstract of thy Works, and to publish only that Part of them, which contains what may tend to the Discovery of Truth, separated from all Marks of Envy, and Malice towards those, who modestly use their best Endeavours towards the promoting so valuable an End. If thou couldest follow my Advice, thou wouldest obtain the Friendship, Love and Esteem of thy Fellow-creatures; who now unanimously contemn, hate, and abhor thee. Thou wouldest, with Gratitude, own me to be the Author of thy Happiness; thou wouldest love me as the best Friend thou hadest ever met with in thine whole Life, and, with Candor, acknowledge me, in thy next Pamphlet, to have been thy greatest Benefactor. Thou seest how much I court thy Favor, even by imitating thy new spelling of many Words, which no Author besides myself ever will do. Be good therefore, and believe that he who has done thee all those good Offices, is a most sincere Well-wisher to thy Reformation, and will remain so as long as he shal be

*From my own
Musæum,
A. D. 1757.*

J. R.

Soon

Soon after I had transmitted the preceding short Epistle to my Friend CHARLES in England, I received the following most tragical Letter from a common Friend to us both.

Esham-Street, a great Way from Warwick-Lane.

DEAR SIR,

I AM sorry to be able to inform you, that when your Letter arrived here, it found poor Charles much out of Order. He had been calcining some of the Contents of the Bath Waters, in order to demonstrate to me, that the Existence of any thing sulphurous in them, was the meer Creature of the Branes of the foolish Regulars at Bath; holding his Head too close over the ignited Matter, he received such a Quantity of the sulphurous Steams into his Nostrils, that he was seized with a sudden Vertigo, fell down, and lay seemingly as really suffocated, as a miserable Hive of Bees are, when set over lighted Matches, merely because they are grown rich by their Industry. The Way of bringing Dogs to Life again, after having been dipped, by the curious Traveller in the Vapor of the Grotto *del Cani*, came immediately into my Mind. I therefore ordered *Lungs* and *Stoker* to plunge him Head foremost into the Water-Barrel of the Alembic, which was near at Hand. They did so, and my poor Friend soon shewed some Signs of Life, and after three or four Dippings he began to recover his Sight and Speech.

He was then removed into a warm Bed. He sweated plentifully, and had several involuntary Evacuations, which smelt very sulphureous. The next Day he recovered his Senses tolerably well, sat up some Hours, but was very weak and languid. In this Condition your Letter found him.

He received it with great Eagernes, and all we could do could not prevent his reading it immediately. I will see, said he, as well as he could speak, what this stupid Fellow can say. But he had scarce read it half through, before he grew very delirious, raved; and quite lost his Senſes. The Spiritus Rector evaporated in about 12 Hours, and left our Friend a mere *Caput Mortuum*.

Indeed, Friend *Rutty*, I believe thou didſt not intend ſo ſevere a Revenge, though I confeſſ thou hadſt great Provocation. I wiſh this may not affliet thee on thy Death-Bed.

He kept a Liquor by him, which he uſed to ſay was the very idenſical Pickle, in which Duke *Humphrey*'s Body had lain ſo many Years uncorrupted. Having put his Body into a Lead Coffin, and poured this Liquor over him, it was well ſoldered, and putting that into another Coffin made of the best *Irish* Oak we could procure, we ordered it to be ſent to *Ireland*, there to be interred amongſt his Anceſtors, according to his own eſpecial Appoint-ment, while he was yet alive—Great Man! Great Man! when the Vapors of Sorrow, and Affliction, are raifed into the human Capitulum, by the Fire of Love for a deceaſed Friend, thou, who art ſo well verſed in every Operation of Chemistry, well knoweſt, that Tears will flow from the Eyes, as naturally as Drops from the Snout of an Alembick —Alack a Day! Alack a Day! What ſhal I do! What ſhal I do! No more Books can I write—Pity, pity me, as I did thee moſt paſſionately when I firſt read over the great Man's *Analysis*, for I am thine Friend, as I am ſure I was the great Man's till Death,

Hugh Clapſhoulder.

Upon

Upon Notice of the intended Arrival of the Body in *Ireland*, the Judges all met to consider on a Point of Law, for which there was no Precedent. It was learnedly argued, that as the whole Man had been expelled the Kingdom, therefore if any Part of him should dare to return into the Kingdom, whether Soul, or Body, that such Part, or Portion of the said 'Out-law so returning,' should be liable to all the Penalties, which the 'whole Man would have incurred, if the said 'whole Man had returned contrary to the Law.' In this Opinion the whole Bench acquiesced. It was therefore ordered that the Body of the said Exile, should be taken into safe Custody, as soon as it was landed, and that it should be conveyed to *Dublin*, and then and there be delivered into the Hands of the Surgeons, to be publicly anatomized, in order to strike a proper Terror into all turbulent and seditious Minds, who might hereafter be moved by vane Glory, and restless Ambition, to disturb the Peace of the Nation. By Virtue of this Order the Body was brought to *Dublin*, and publicly dissected in the Surgeon's Hall, many eminent Persons of the Faculty being present.

Upon opening the lead Coffin, the Body appeared as fair, and sound, as if it had been parted from the Spiritus Rector scarce twenty-four Hours. Such was the great Skill, in chemical Preparations of this wonderful Adept!

Mr. *George C——n*, that skilful Anatomist, divided the Cranium horizontally, and having artificially removed the upper Part, without hurting the Brain, the following Phenomena were observed.

The Inside of the Cranium was crusted with Flowers of Sulphur, very like those in the Domes of the Fountains at *Aken*, which were supposed to be generated by the Union of the natural Acid with the

the Phlogiston, with both which his natural Constitution greatly abounded.

Upon dextrously removing the *Dura*, and *pia Mater*, the Brain appeared greatly inflamed, and what is almost incredible, there appeared several legible Words on the medullary Substance, and round the *Glandula Pinealis*—such as *Parliament*, *Expulsion*, *Regulars*, *Sulphur*, *Rutty*, and the like, which forming great Obstructions, and Inflammations, must have excited the exquisite Anguish, and tormenting Head-achs, which had wofully distorted his Eyes, and were, probably, the remote Cause of his unhappy Death.

Having then divided the Cartilages of the Ribs, and raised the Sternum, the Lungs appeared strong, smooth, and shining like Brass, so that he might probably have been able to hold forth for an Hour together, with great Strength of Voice, and Fluency of Speech.

Having torn off the Duplicature of the Mediastinum, the Pericardium appeared very preternaturally distended, containing near a Quart of a Liquor more bitter than Gall, and more corrosive than *Aqua Fortis*; I dropped a few Drops of this Liquor, by Accident, on my Synopsis, which is not a very thin Volume, and it immediately penetrated every Page: It was observed, through its whole Passage, to stop, hiss, and ferment wherever it met with the Name of any celebrated Author, or any new Experiment on Waters, which was not in his own Essay.

The Heart itself, which came next in View, appeared monstrously large, and upon pressing it with the Finger, it was found as renitent as a blown Bladder. A Puncture being made in it with the Point of a Lancet, a putrid Vapor rushed out with great Violence, and a whizzing Noise, which smelled so strongly of Pride, Arrogance, and Self-conceit, that it had like to have poisoned all the Persons employed in

the Dissection. The Bag immediately collapsed, and we did not think it worth our while to pother any more about so rotten a Viscus.

The Abdomen was then laid open.

The Liver appeared to be of a most enormous Size, and the Gall Bladder contained at least a Pint of black acrid Bile, which had diffused itself all over the Intestines, which were so much decayed, that they must long have lost every Degree of Sensibility, and therefore had ceased to be the *Bowels of Compassion*.

The Spleen was very large, hard, and black; in many Places it was full of foul Ulcers, some of them of the cancerous Kind.

As those Appearances were sufficient to account for all this Gentleman's Proceedings while alive, we made no farther Researches, but ordered the Parts to be decently put together, and that the Body should be delivered to his Friends, to be disposed of in what Manner they should think fit.

Having now had incontestable Evidence that poor *Charles* is defunct, I do hereby declare, that if hereafter, any Ghost, Phantom, or Imposture, shal, or may arise, who shal dare to assume the Shape and Character of the Deceased, or shal, by any Writing, Book, or Pamphlet, by imitating the Acrimony of his Stile, and using his new Manner of Spelling, endeavour to deceive the Public, and by putting his Name thereto, shal impose upon the World, by asserting that he is still alive, I do hereby, and by these Presents, I do most solemnly vow, and protest that I never will, by any Writing, or otherwise, take the least Notice of such a Cheat, and Imposture, but will leave it to be punished by the Ghost of the said deceased *Charles*, as the Gods of the lower Regions shal think meet to authorize it to do, to whose Kingdom such Sprights and Phantoms do naturally belong.

Witness my Hand,

J. R.



